# **EXHIBIT A**

Exhibit A – Proposed Constructions and Supporting Intrinsic and Extrinsic Evidence

Term / Phrase	Solas's Proposed Construction	Defendants' Proposed Construction
U.S. Patent No. 7,446,338		
"transistor array substrate" (claim 1)	"layered structure upon which or within which a transistor array is fabricated"  Supporting Evidence:	"a layered structure composed of a bottom insulating layer through a topmost layer on whose upper surface electrodes are formed, which contains an array of transistors"
	Intrinsic Evidence	Supporting Evidence:
	'338 patent at Abstract, 4:42–50, 8:18–20, 10:42–47, 11:50–55, 12:55–13:17, 24:14–38, Figs. 3–6  Extrinsic Evidence	Intrinsic Evidence  '338 patent at Abstract; claim 1; 2:17-51; 8:18- 20; 10:25-58; 11:33-57; 12:55-67; and Fig. 6.  September 26, 2005 application as originally
	The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition (2000) at 1123 ("substrate (1) (integrated circuit) The supporting material upon or within which an integrated circuit is fabricated or to which an	filed; July 23, 2007 Restriction Requirement; October 23, 2007 Office Action; February 25, 2008 Response to Office Action; September 29, 2004 parent application JP 2004-283824 as originally filed.
	integrated circuit is attached (4) The base material upon which or in which a transistor or integrated circuit is fabricated; for example, materials such as glass-ceramic or silicon	European Patent App. Pub. No. EP 1331666 [SDC0195893–927] at Abstract; Figs. 1A–1C; Figs. 6A–6C; Figs. 9A–9C; [0051]-[0063]; [0094]-[0108].
	oxide."	U.S. Patent App. Pub. No. 2003/0137325 [SDC0195928–59] at Abstract; Figs. 1A–1C;

	McGraw Hill Dictionary of Scientific and Technical Terms, Fifth Edition (1994) at 1948 ("substrate: The physical material on which a microcircuit is fabricated; used primarily for mechanical support and insulating purposes, as with ceramic, plastic, and glass substrates; however, semi-conductor and ferrite substrates may also provide useful electrical functions.")  Expert declaration of Richard A. Flasck  Samsung's Petition for <i>Inter Partes</i> Review, IPR2020-00320	Figs. 6A–6C; Figs. 9A–9C; [0014]-[0042]; [0090]-[0105]; [0133]-[0136]; [0144]-[0147].  Extrinsic Evidence  U.S. Patent No. 7,573,068 [SDC0068864–909] at Abstract; 1:16-20; 2:5-35; 10:34-54; 14:67-16:6; 25:60-64; 26:4-16; and Figs. 5-8.  U.S. Patent No. 7,498,733 [SDC0068829–863] at Abstract; 1:32-46; 8:38-58; 9:14-19; 9:51-62, Figs. 4-6; and Figs. 18-19.  "The New Oxford American Dictionary, Second Edition," Erin McKean, Oxford University Press (2005) at 1688 ("substrate": "a substance or layer that underlies something, or on which some process occurs" / "a material that provides the surface on which something is deposited or inscribed") [SDC0068825–828].
"project from a surface of the transistor array substrate" (claim 1)	"extend from a surface of the transistor array substrate"	"extend above the upper surface of the transistor array substrate"
Substrate (Claim 1)	Supporting Evidence: Intrinsic Evidence	Supporting Evidence: Intrinsic Evidence

'338 patent at Abstract, 10:42–60, 11:33–55, 12:55–13:17, 21:63–22:11, 22:20–57, 22:62–67, 23: 26–40, 24:14–38, Figs. 3–6

#### **Extrinsic Evidence**

The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition (2000) at 1123 ("substrate (1) (integrated circuit) The supporting material upon or within which an integrated circuit is fabricated or to which an integrated circuit is attached. . . . (4) The base material upon which or in which a transistor or integrated circuit is fabricated; for example, materials such as glass-ceramic or silicon oxide."

McGraw Hill Dictionary of Scientific and Technical Terms, Fifth Edition (1994) at 1948 ("substrate: The physical material on which a microcircuit is fabricated; used primarily for mechanical support and insulating purposes, as with ceramic, plastic, and glass substrates; however, semi-conductor and ferrite substrates may also provide useful electrical functions.")

Expert declaration of Richard A. Flasck

Samsung's Petition for *Inter Partes* Review, IPR2020-00320

'338 patent at Abstract; claim 1; 2:17-51; 8:18-20; 10:25-45; 10:45-47; 10:47-60; 11:18-55; 12:55-13:3; 22:62-67; and Fig. 6

September 26, 2005 application as originally filed; July 23, 2007 Restriction Requirement; October 23, 2007 Office Action; February 25, 2008 Response to Office Action; September 29, 2004 parent application JP 2004-283824 as originally filed.

European Patent App. Pub. No. EP 1331666 [SDC0195893–927] at Abstract; Figs. 1A–1C; Figs. 6A–6C; Figs. 9A–9C; [0051]-[0063]; [0094]-[0108].

U.S. Patent App. Pub. No. 2003/0137325 [SDC0195928–59] at Abstract; Figs. 1A–1C; Figs. 6A–6C; Figs. 9A–9C; [0014]-[0042]; [0090]-[0105]; [0133]-[0136]; [0144]-[0147].

### **Extrinsic Evidence**

"The New Oxford American Dictionary, Second Edition," Erin McKean, Oxford University Press (2005) at 1355 ("project": "extend outward beyond something else; protrude") [SDC0068825–828].

"the pixel electrodes being arrayed along the interconnections between the interconnections on the surface of the transistor array substrate" (claim 1) "the pixel electrodes are arrayed along the interconnections and located between the interconnections that are on the surface of the transistor array substrate"

Supporting Evidence:

#### **Intrinsic Evidence**

'338 patent at Abstract, 8:17–23, 9:3–11, 10:48–60, 11:33–49, Figs. 3–6

'338 patent file history, claim 1 as filed September 26, 2005

'338 patent file history, amendments to claim 1 filed February 25, 2008 and accompanying remarks

#### **Extrinsic Evidence**

The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition (2000) at 1123 ("substrate (1) (integrated circuit) The supporting material upon or within which an integrated circuit is fabricated or to which an integrated circuit is attached. . . . (4) The base material upon which or in which a transistor or integrated circuit is fabricated; for example, materials such as glass-ceramic or silicon oxide."

"the pixel electrodes are arrayed along the interconnections and located between the interconnections, and the pixel electrodes are on the surface of the transistor array substrate"

Supporting Evidence:

#### **Intrinsic Evidence**

'338 Patent at Abstract; claim 1; 2:17-21; 2:37-51; 5:23-40; 5:51-6:42; 8:18-20; 10:25-60; 11:33-41; 11:50-55; 12:30-67; 22:62-67; and Figs. 1-6

September 26, 2005 application as originally filed; July 23, 2007 Restriction Requirement; October 23, 2007 Office Action; February 25, 2008 Response to Office Action; September 29, 2004 parent application JP 2004-283824 as originally filed.

European Patent App. Pub. No. EP 1331666 [SDC0195893–927] at Abstract; Figs. 1A–1C; Figs. 6A–6C; Figs. 9A–9C; [0051]-[0063]; [0094]-[0108].

U.S. Patent App. Pub. No. 2003/0137325 [SDC0195928–59] at Abstract; Figs. 1A–1C; Figs. 6A–6C; Figs. 9A–9C; [0014]-[0042]; [0090]-[0105]; [0133]-[0136]; [0144]-[0147].

## **Extrinsic Evidence**

	McGraw Hill Dictionary of Scientific and Technical Terms, Fifth Edition (1994) at 1948 ("substrate: The physical material on which a microcircuit is fabricated; used primarily for mechanical support and insulating purposes, as with ceramic, plastic, and glass substrates; however, semi-conductor and ferrite substrates may also provide useful electrical functions.")  Expert declaration of Richard A. Flasck  Samsung's Petition for <i>Inter Partes</i> Review, IPR2020-00320	U.S. Patent No. 7,573,068 [SDC0068864–909] at Abstract, 1:16-20, 2:5-35, 10:34-54, 11:4-27, 14:67-16:6, 25:60-64, 26:4-16, and Figs. 5-8.  U.S. Patent No. 7,498,733 [SDC0068829–863] at Abstract, 1:32-46, 8:38-58, 9:14-19, 9:51-10:15, Figs. 4-6, and Figs. 18-19.
"write current" (claim 1)	No construction required	"pull-out current"
	Supporting Evidence:	Supporting Evidence:
	Intrinsic Evidence	Intrinsic Evidence
	'338 patent at 14:20–29, 14:40–15:4, 15:28–17:25, 17:38–18:7, 18:43–19:12, 24:14–38, Figs. 2, 7, 8	'338 patent at Abstract; 15:28-16:63; 17:17-62; and Fig. 2
		Extrinsic Evidence
	Extrinsic Evidence	U.S. Patent Publication No. 2004/0113873
	Expert declaration of Richard A. Flasck	[SDC0068361–85] at $\P$ [0072], [0100], [0101], [0109].
	Samsung's Petition for <i>Inter Partes</i> Review, IPR2020-00320	U.S. Patent Publication No. 2004/0165003 [SDC0068386–402].

"4.2: Design of an Improved Pixel for a Polysilicon Active Matrix Organic Light Emitting Diode Display," Dawson, R.M.A. <i>et al.</i> , Sid Symposium Digest of Technical Papers (1998) [SDC0195815–819]
"24.1: Invited Paper: Pursuit of Active Matrix Organic Light Emitting Diode Displays," Dawson, R. & Kane, M., Sid Symposium Digest of Technical Papers (2001) [SDC0195820–823]
"Current-source a-Si:H thin-film Transistor Circuit for Active-Matrix Organic Light-Emitting Displays," He, Yangdong <i>et al.</i> , IEEE Electron Device Letters Vol. 21 (2000) [SDC0195824– 826]
"24.4L: Late-News Paper: A 13.0-inch AM-OLED Display with Top Emitting Structure and Adaptive Current Mode Programmed Pixel Circuit (TAC)," Sasaoka, Tatsuya <i>et al.</i> , Sid Symposium Digest of Technical Papers (2001) [SDC0195827–830]
"57.4L: Late-News Paper: Full-color Polymer AM-OLED using Ink-jet and aSi TFT Technologies," Shirasaki, Tomoyuki <i>et al.</i> , Sid Symposium Digest of Technical Papers (2004) [SDC0195831–834]

U.S. Patent No. 9,256,311		
"configured to wrap around one or more edges of a display" (claims 1 and 7)	No construction required  Supporting Evidence:  Intrinsic Evidence  '311 patent at 5:15–55, 7:37–8:2, 8:61–9:7, 9:32–49, Figs. 1, 7  '311 patent file history, applicant remarks dated June 19, 2015  Extrinsic Evidence  Expert declaration of Richard A. Flasck  Samsung's Petition for Inter Partes Review, IPR2019-01668	"wrapped around one or more line segments where two surfaces of a display intersect"  Supporting Evidence:  Intrinsic Evidence  '311 patent at Abstract; claims 1 and 7; 7:37-8:10 and Fig. 7.  October 28, 2011 application as originally filed; February 7, 2014 Response to Office Action; February 26, 2014 Non-final Office Action; June 26, 2014 Response to Office Action; October 15, 2014 Response to Office Action; March 3, 2015 Response to Office Action; March 19, 2015 Nonfinal Office Action; June 19, 2015 Response to Office Action; September 24, 2015 Notice of Allowance.  U.S. Patent App. Pub. No. 2008/0158183  [SDC0195835–49] at ¶¶ [0006], [0008], [0010], [0030], [0035], [0043], [0045]-[0049], [0057], [0059] and Figs. 5-7, 9.  U.S. Patent App. Pub. No. 2008/0303782  [SDC0195850–69] at ¶¶ [0066]-[0067] and Fig. 5.

	U.S. Patent App. Pub. No. 2012/0038613 [SDC0195870–83] at ¶¶ [0040] and Fig. 3  U.S. Patent App. Pub. No. 2013/0032414
	[SDC0195884–92] at ¶¶ [0018]-[0023], [0026]- [0029], and Figs. 3, 4.
	Extrinsic Evidence
	"Concise Oxford English Dictionary, Twelfth Edition," Oxford University Press (2011) at 455 ("edge": "the line along which two surfaces of a solid meet"), 1666 ("wrap-around": "curving or extending round at the edges or sides") [SDC0068913–917]
	"Dictionary of Computing, Sixth Edition," A&C Black Publishers Ltd. (2010) at 119 ("edge": "a side of a flat object") [SDC0068918–922]
	"McGraw-Hill Dictionary of Scientific and
	Technical Terms, Fifth Edition" Sybil P. Parker, McGraw-Hill, Inc. (1994) at 641 ("edge": "a line
	along which two plane faces of a solid intersect") [SDC0068817–821].